

APPENDIX A

Testimony	Basis of Exclusion
AppNexus (O'Kelley)	
<p><u>Dep. Tr. 74:17-75:21</u> Q: Did Google's acquisition of DoubleClick increase the dominance of the DFP ad server? A: My perspective was -- is that DFP was already pretty dominant, and they were able to, for instance, get The New York Times to switch to DFP over a couple years. They certainly made it economically almost impossible to. It wasn't just the best technology -- it wasn't the best ad server. But every other ad server company either went out of business or was sold for scrap. They just destroyed all competition for that ad server. There's companies like Open AdStream, or a company called Ad Tech, great name, that AOL bought and shut down. I mean, really, within a couple years of that acquisition, there were no viable competitors in the publisher ad server space.</p>	<p>Inadmissible lay opinion, lacks personal knowledge,</p>
<p><u>Dep. Tr. 95:20-96:14</u> Q: You referred to Google's demand as unique demand. What did you mean by that? A: I meant that that demand was only available through the Google AdSense platform -- or network, really. And it was unique because it was tied to the Google search business, so most of that demand, if not all of that demand, was coming from search advertisers. So they were using their relationship with Google across different formats to, you know, I think, check a little checkbox that said, "and run this across the internet and display advertising." There was no other -- there were no other way to get those ad dollars, except from Google.</p>	<p>Inadmissible lay opinion, lacks personal knowledge,</p>
<p><u>Dep. Tr. 114:3-11</u> Q: And how did the practices of DFP impact the market share of AdX over that time period? A: AdX was -- I mean, market share of AdX increased dramatically because of the actions of DFP.</p>	<p>Inadmissible lay opinion, lacks personal knowledge</p>
<p><u>Dep. Tr. 125:13-126:19</u> Q: And how, if at all, did that impact Google's market share? A: I don't know exactly how it impacted market share because I don't have all the numbers. But in terms of their ability to out-price competitors, it had a huge impact. It meant that they could play games with price if they wanted to, You know, or they could have a preferred price, even though it's supposedly an auction. They would always win at a better price than anyone else.</p>	<p>Inadmissible lay opinion, hearsay</p>

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<p>And that translated to both their market story -- they would tell that story to agencies and advertisers and say, well, you know, we can – because we have last look, we will always have a better price than anybody else.</p> <p>It was very powerful for win rates because they never accidentally underpriced by a penny or two. They even built a feature that let them bump prices by a couple pennies to win auctions, and then they'd sort of make it up on the next auction.</p> <p>They had all these techniques because they had full information, to let them effectively manipulate auctions and manipulate the decisioning process, in their benefit.</p>	
Equativ (Creput)	
<p><u>Dep. Tr. 23:22-24:3</u></p> <p>Q: What's your understanding of – what's your understanding of the market share of Google's DFP as a publisher ad server among media publishers?</p> <p>A: So on the publisher ad server, Google's share is estimated at 90 percent.</p>	Inadmissible lay opinion, lacks personal knowledge, hearsay
<p><u>Dep. Tr. 24:4-9</u></p> <p>Q: How would you characterize Google DFP's position in the publisher ad server business?</p> <p>A: It's dominating and actually monopolistic position that it holds.</p>	Inadmissible lay opinion, lacks personal knowledge, hearsay
<p><u>Dep. Tr. 115:7-13</u></p> <p>Q: Do you think Google competes in a fair and transparent manner in the display advertising technology business today?</p> <p>A: I think everything I said so far shows that I don't believe that at all.</p>	Inadmissible lay opinion, lacks personal knowledge
Index Exchange (Casale)	
<p><u>Dep. Tr. 115:18-116:5</u></p> <p>Q: Are you aware of how the size of Google display network's market share compares to the next largest competitor in that market?</p> <p>A: There aren't a significant number of ad networks, especially for open web display. So I would assume significant, but there's also no normal tracking of this, so I can't comment.</p>	Lacks personal knowledge
<p><u>Dep. Tr. 132:17-133:8</u></p> <p>Q: In your opinion, does GDN represent a unique source of demand in the market?</p> <p>A: Yes.</p> <p>Q: Can you explain why?</p> <p>A: As far as I know, GDN is comprised of either of hundreds of thousands or millions of SMBs, which is a very, very unique source of demand. Typically the demand in our marketplace is more Fortune 500 large brand advertisers who have significant ad budgets as well but are materially different than the SMB category.</p>	Inadmissible lay opinion

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<u>Dep. Tr. 147:5-12</u> Q: And how does the market share of folks like Magnite, PubMatic, and Index compare to the market share of a company like AdX? A: I think combined we're still quite a bit smaller.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 147:13-15</u> Q: Even combining all three together against AdX by itself? A: Yes.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 158:16-24</u> Q: Have you ever spoken to publishers who expressed any concern about Google's dominance across the ad tech stack? A: That's a pretty common position that a lot of publishers have.	Lacks personal knowledge
<u>Dep. Tr. 197:8-18</u> Q: Okay. Earlier today you talked about Open Bidding. What is your understanding of why Google created the Open Bidding product? A: We assumed it was an attempt at creating a header bidding killer.	Lacks personal knowledge
Kargo (Shaugnessy)	
<u>Dep. Tr. 14:23-15:2</u> Q: So what company offers the largest SSP for Open Auction display advertising transactions? A: Google.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 35:16-19</u> Q: So it's your view that Google is the dominant publisher ad server on the market today? A: Yes.	Inadmissible lay opinion
<u>Dep. Tr. 50:9-25</u> Q. How does the tie that you've described between AdX and Google's publisher ad server impact Google's publisher ad position in the market? A. Publishers use Google Ad Manager and would not switch, as far as I know, unless there was an opportunity to access this type of demand, as well as ensuring they all the functionality that goes into serving a campaign that is provided by GAM.	Inadmissible lay opinion, lacks personal knowledge, hearsay
<u>Dep. Tr. 70:19-24</u> Q: So how, if at all, does the link between GDN, AdX, and DFP affect competition between publisher ad servers? A: It inhibits meaningful competition.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 70:25-71:4</u> Q: How does it inhibit meaningful competition? A: From my understanding, the systems operate best together.	Inadmissible lay opinion, lacks personal knowledge
Kevel (Avery)	
<u>Dep. Tr. 28: 11-13</u> Q: So how would you describe GAM's position in the publisher ad server business today? A: I think they're dominant.	Inadmissible lay opinion, lacks personal knowledge

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<u>Dep. Tr. 43:13-20</u> Q: Thank you. And why do you view Google's publisher ad server GAM as being a monopoly in the publisher ad server market? A: I think they have – they have over -- you know, over 90 percent or more of publishers are using GAM.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 50:25-51:7</u> Q: Earlier, we talked a little bit about Google's ad exchange, AdX. In terms of size, how does AdX compare to other ad exchanges – like Index, PubMatic or AppNexus -- for programmatic display advertising? A: I believe it is the largest.	Inadmissible lay opinion, lacks personal knowledge, hearsay
<u>Dep. Tr. 51:9-13</u> Q: And what is your basis for saying it is the largest? A: Based on the publishers that we talked to, it represents the largest portion of their revenue.	Inadmissible lay opinion, lacks personal knowledge, hearsay
<u>Dep. Tr. 96:17-22</u> Q: And what did you mean when you said "it's why most other display ad servers have shut down"? A: Just that basically because they've tied this unique demand to their ad server, other ad servers can't compete in that market.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 96:23-97:6</u> Q: And what opinion, if any, were you expressing about the effects on competition or other publisher ad servers that result from the links between DFP, AdX and AdWords? A: Yeah, I think it -- I think it makes it almost impossible for publisher ad servers to compete against GAM in the market.	Inadmissible lay opinion, lacks personal knowledge
Magnite (Soroca)	
<u>Dep. Tr. 18:9-12</u> Q: Mr. Soroca, which company has the largest display publisher ad server A: I believe that to be Google	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 19:1-6</u> Q: And how would you characterize Google's position in the display publisher ad server business? A: Dominant.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 19:9-12</u> Q: And why do you view Google as the dominant publisher ad server for display? A: I believe them to have market share in the 95 to 97 percent range.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 20:7-11</u> Q: And, Mr. Soroca, how would you characterize Google AdX's position in the display ad exchange business? A: The dominant player in the market	Inadmissible lay opinion, lacks personal knowledge

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<p><u>Dep. Tr. 20:12-16</u> Q: And why do you view Google's AdX as the dominant display ad exchange? A: As we talk with our publishers and our advertisers, they signal that that is the case.</p>	Inadmissible lay opinion, lacks personal knowledge
<p><u>Dep. Tr. 21:5-9</u> Q: And with respect to Google AdX's dominant position in the marketplace, has that changed in the last five years? A: Not to my knowledge.</p>	Inadmissible lay opinion, lacks personal knowledge
<p><u>Dep. Tr. 25:22-26:4</u> Q: And why do you view Google demand network as having a very strong position in this market? A: Publishers tell us how much they rely on the money flow that comes from that source.</p>	Inadmissible lay opinion, lacks personal knowledge, hearsay
<p><u>Dep. Tr. 27:8-12</u> Q: And why do you view DV360 as having a dominant position? A: They're known in the industry to be the largest.</p>	Inadmissible lay opinion, lacks personal knowledge, hearsay
<p><u>Dep. Tr. 195:14-19</u> Q: Specifically within display ad tech, which categories of that technology would you say they're the dominant – the largest in? A: They're the largest DSP, they're the largest SSP, and they're the largest ad server.</p>	Inadmissible lay opinion, lacks personal knowledge
Microsoft (John)	
<p><u>Dep. Tr. 183:24-184:5</u> Q: How would you characterize Google's position in the publisher ad server business in the US? A: They're the leading market player, and almost all publishers use Google ad server.</p>	Inadmissible lay opinion, lacks personal knowledge
<p><u>Dep. Tr. 184:17-185:4</u> Q: Sure. What impact, if any, is there on competition from the fact that Google demand is not fully available to publishers, unless the publishers use DFP, Google DFP, as their publisher ad server? A: So the impact will be there will not be any other ad server other than Google. And Google will have the say in how much or how publishers can monetize or get the better yield; and that is -- and that will be the impact.</p>	Inadmissible lay opinion, lacks personal knowledge
<p><u>Dep. Tr. 186:3-13</u> Q: Is Google's publisher ad server's success due to Google competing fairly on the merits and having the best product? A: Based on what I hear and see the documentation, Google don't have the best product. They missed it a lot in the product. But as I said, product is not the only reason customers or publishers stay with or work with Google ad server. It's the demand and stickiness.</p>	Inadmissible lay opinion, lacks personal knowledge, hearsay

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<u>Dep. Tr. 194:25-195:7</u> Q: How does GDN compare in size to the other display owners? A: Because of the user volume and access and the market penetration with Google's -- properties and the large scale, small to medium to large scale, it's pretty big.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 204:3-14</u> Q: So today, do you view Google's acquisition of DoubleClick as good for competition or bad for competition? A: You know, the fact that publishers are not able to migrate and other players are not able to migrate publishers to other ad servers, there is no level field on playing competition as compared to products to convert customers.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 238:17-239:3</u> Q: Why is Google able to maintain its position as the largest display SSP, at least for the last five years? A: You know, the customers that Google ad server and AdX had access that I mentioned before, they are sticky; and I believe that's one of the reasons the supply is consistently staying there.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 243:3-19</u> Q: So if you set aside the fact that Google has first-party properties, what other reasons, if any, are there why Google has been able to remain the largest display SSP, despite the fact that Xandr is doing all that it can to compete with Google? A: Number one is the demand, AdX demand. Q: What do you mean by that? A: Like the access of, availability of the demand that publishers can monetize in place of Google is the reason consistently the publishers are leveraging Google's product. Q: And which demand are you referring to? A: AdX demand.	Inadmissible lay opinion, lacks personal knowledge
OpenX (Gentry)	
<u>Dep. Tr. 17:16-21</u> Q: How would you characterize Google's position in the display publisher ad server business? A: Dominant, I think at this point, 90 percent-plus share.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 18:8-19</u> Q: Why, if at all, is accessing AdX demand important to publishers? A: Publishers, you know, prioritize -- their goal with an ad server and with their ad business is to drive as much revenue as possible to be able to fund investments in their properties, so they have to drive the most revenue they can. When one ad server represents far and away the best opportunity for monetization or revenue, are going to choose that ad server.	Inadmissible lay opinion, lacks personal knowledge

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<p><u>Dep. Tr. 30:15-23</u> Q: And why would a publisher want to manage their price floors to have less revenue from Google and more revenue from other exchanges? A: Most publishers would express to me that they were concerned about the reliance on Google revenue and the significant amount of Google -- significant percentage of revenue that Google represented of their total.</p>	Lacks personal knowledge, hearsay
<p><u>Dep. Tr. 32:19-22</u> Q: Shifting transactions from AdX to other exchanges could potentially make the exchange market more competitive. Is that fair? A: Yes.</p>	Inadmissible lay opinion, lacks personal knowledge
<p><u>Dep. Tr. 40:13-16</u> Q: How would you characterize AdX's position in the display exchange business? A: Dominant.</p>	Inadmissible lay opinion, lacks personal knowledge
The Trade Desk (Dederick)	
<p><u>Dep. Tr. 153:23-154:2</u> Q: Which company has the largest publisher ad server? A: Google's DFP is far and away the dominant publisher ad server.</p>	Inadmissible lay opinion
<p><u>Dep. Tr. 154:3-155:14</u> Q: Why do you say that "Google's DFP is far and away the dominant publisher ad server"? A: I'd love to talk about why I say that and why that happened if it gives some context. The context would be, you know, the early days of the internet, obviously the front door was the browser. When Google search came about, they successfully moved the front door of the internet from the browser to the search engine. And we all now often for years have started with Search and Google Search has been incredibly successful. And the monetization of Google Search is advertising, so Google was able to amass millions of advertisers on a search basis with a dominant search platform. And what they did next was basically turn the presence they had in search into a Display Ad Network, which is what Google AdWords is. And what that looked like was going to publishers and saying, if you implement my ad serving technology, you can get all of the dollars and all of the demand from the millions of search advertisers we have too. So, if you -- if, and only if, you implement our ad server and the publisher ad server, you can get all the money from all the search advertisers we have. And so, in so doing, and then, you know, with the acquisition of DoubleClick, which is dominant, I think, major majority share publisher ad server, you know, they created real dominance in publisher ad serving. And so -- yeah, let me leave it there.</p>	Inadmissible lay opinion

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<p><u>Dep. Tr. 162:7-22</u> Q: Why do you describe AdX, Google's AdX as dominant? A: I would describe Google's AdX as dominant because it is the largest pool of inventory that we look at programmatically, so any DSP has to buy AdX in order to be competitive. Any advertiser who's buying programmatically has to buy AdX in order to be competitive. And any publisher who wants to monetize and be competitive with other publishers monetizing must implement AdX. And I -- there is not one DSP or advertiser that I can think of that doesn't buy AdX and there is not one publisher that I can think of that doesn't monetize with AdX.</p>	<p>Inadmissible lay opinion, lacks personal knowledge</p>
<p><u>Dep. Tr. 205:15-206:24</u> Q: What is your understanding—what gives Google the ability to set the rules of an auction for Display? A: The reason that Google is able to set the rules for all of the auctions is complete dominance in the publisher ad server marketplace, which again, that came from dominance in Search, where Google's successfully becoming the front door to the internet and incredibly successful monetization of their Search platform went directly into, walking into every publisher and saying, hey, if you want my millions of Search advertisers and all of the money that they represent, implement my publisher ad server. And this is really, you know, what they have protected successfully for years since that happened and moving into creating the most successful and largest ad exchange is really another means of protecting their dominance in publisher ad serving. Because again, you know, the idea in exchange in RTB grew and Google then created and acquired their way into the dominant ad exchange. So, it is because the ad exchange hosts the auction where Google has dominance and the publisher uses the bids that come out of an auction to decide where ads go where at what cost, that's why Google has the ability to run the auction.</p>	<p>Inadmissible lay opinion, lacks personal knowledge</p>
<p><u>Dep. Tr. 206:25-207:24</u> 206:25 Q. So, is Google's position in the publisher ad server business for Display good for advertisers, bad for advertisers or how do you see it? A: So, having one party dominate all of publisher ad serving is really terrible for advertisers. And the reason is it limits their ability to get competitive yield optimization from the publishers, it limits their ability to have a fair chance at buying the most cost effective or efficient, it eliminates the possibility for a more cost efficient supply chain because of course there are no par- -- there are no competitors, meaningful competitors, in publisher ad serving. So, whatever fees they choose to charge for that, which make their way into cost of media for an advertiser, blank check.</p>	<p>Inadmissible lay opinion, lacks personal knowledge</p>

Testimony	Basis of Exclusion
So, there are numerous ways that Google's control over the publisher ad serving market harms advertisers.	
<u>Dep. Tr. 207:25-208:8</u> Q: What did you base the answer that you just gave on? A: I base that answer on my knowledge of how publisher ad servers interact with ad exchanges and DSPs and, you know, 11 years of representing buyers who have spoken about the consequences of what that means for advertisers.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 215:15-217:1</u> Q: You mentioned Admeld a couple times. What effect, if any, did the acquisition of Admeld have on Google's position in the ad exchange market today? A: So, it's important to look back at that moment in time and understand that Google had already acquired DoubleClick. DoubleClick was a dominant publisher ad server and the movement of real-time bid and auction based buying had really begun and, you know, Google in part because of the way that the search business naturally led them to work with a lot of the smaller publishers that linked directly from google.com and that long tail of smaller publishers were a lot of the initial implementations of DoubleClick and DFP. Google had a lot of share among the smaller publishers, but an independent ad exchange who specialized in strong yield optimization unsurprisingly was the favor of the larger publishers. So, Google had a pretty good sense of the tail, Admeld had the head in terms of the publisher ad exchange implementations. And so, by acquiring Admeld they sort of completed their market share dominance and position in the ad exchange market by filling out the big publisher side. So, prior they didn't have the big publishers when they acquired Admeld and shut that down and built it all into DoubleClick, they then bought their way into full market share in the ad exchange business.	Inadmissible lay opinion, lacks personal knowledge
NewsCorp (Minkin)	
<u>Dep. Tr. 189:19-22</u> Q: How would you describe Google's publisher ad server's position as compared to any other publisher ad server? A: They are the dominant ad server.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 189:23-190:4</u> Q: What's your basis for saying that Google had the dominant ad server? A: Again, just, one, common knowledge throughout the industry. And two, based on, you know, our evaluations previously there is no real viable alternative.	Inadmissible lay opinion, lacks personal knowledge

Testimony	Basis of Exclusion
<u>Dep. Tr. 198:23-199:2</u> Q: What's your basis for saying so? A: One, common knowledge. And two, we could see it in our own reports on programmatic revenue and where the revenue's coming from.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 199:10-14</u> Q: So based on the reports that you viewed, how would you characterize the position of AdX as compared to other ad exchanges? A: Dominant.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 199:15-20</u> Q: What's your basis for saying that? A: Again, just based on my own understanding of the industry and the fact that I've been in it for 24 years, I have a pretty good understanding of the ecosystem and the players in it.	Inadmissible lay opinion, lacks personal knowledge
New York Times (Glogovsky)	
<u>Dep. Tr. 174:15-24</u> Q: Let me just ask my question, so it's clearer. What's your best estimate, based on your experience, for whether Google's DSP either does or does not provide unique demand for open auction specifically for The New York Times? A: My best guess is that Google's DSP has unique demand and transacts on The New York Times.	Lacks personal knowledge
<u>Dep. Tr. 283:16-284:2</u> Q: Is it fair to say that it could be better for competition if AdX were available separately from DFP? A: In this hypothetical scenario, assuming that there were available competitors of potential -- or of the necessary size to compete and fill the vacant inventory, it would be potentially beneficial in this hypothetical scenario.	Inadmissible lay opinion, lacks personal knowledge
Vox (Pauley)	
<u>Dep. Tr. 15:20-16:3</u> Q: How would you characterize the level of competition that AdX, in its position, faces in the exchange business? A: I don't view there to be much competition at the scale that AdX is operating at for our business.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 29:13-19</u> Q: What impact, if any, does UPR have on the potential for there to be more competition for AdX? A: It seemed to limit the competition for AdX.	Inadmissible lay opinion, lacks personal knowledge
<u>Dep. Tr. 41:25-42:9</u> Q: Do you feel like there is or is not a sufficient level of competition for Google Ad Manager as a publisher ad server today? A: In my assessment, there is not a significant amount of	Inadmissible lay opinion, lacks personal knowledge

Testimony	Basis of Exclusion
competition in that market.	
<u>Dep. Tr. 54:9-17</u> Q: If competition for AdX were to increase, what impact, if any, could that have on AdX's take rates? A: I think, presumably and speculatively, it could lower the take rates of AdX and increase the revenue to a publisher like Vox Media.	Lacks personal knowledge
<u>Dep. Tr. 120:6-14</u> Q: Would more competition in – or what impact, if any, would more competition in the publisher ad server business and the scaled SSP business have on innovation? A: Speculatively, it would improve the innovation in those markets, I would presume.	Lacks personal knowledge
NBC Universal + Comcast (Bhatia) Dep. Tr.	
<u>Dep. Tr. 90:23-91:3</u> Q: Was there a need for more competition in the display advertising marketplace? A: I believe most players believed so, yes.	Inadmissible lay opinion, lacks personal knowledge